

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
8 December 2005 (08.12.2005)

PCT

(10) International Publication Number  
**WO 2005/116761 A3**

(51) International Patent Classification:  
G03F 7/09 (2006.01)

(21) International Application Number:  
PCT/US2005/018971

(22) International Filing Date: 27 May 2005 (27.05.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/575,014 27 May 2004 (27.05.2004) US

(71) Applicant (for all designated States except US): E.I. DUPONT DE NEMOURS AND COMPANY [US/US]; 1007 MARKET STREET, WILMINGTON, Delaware 19898 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): KIM, Young, H. [US/US]; 406 Bartram Lane West, Hockessin, Delaware 19707 (US).

(74) Agent: LANGWORTHY, John, A.; E. I. DU PONT DE NEMOURS AND COMPANY, LEGAL PATENT RECORDS CENTER, 4417 Lancaster Pike, Wilmington, Delaware 19805 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

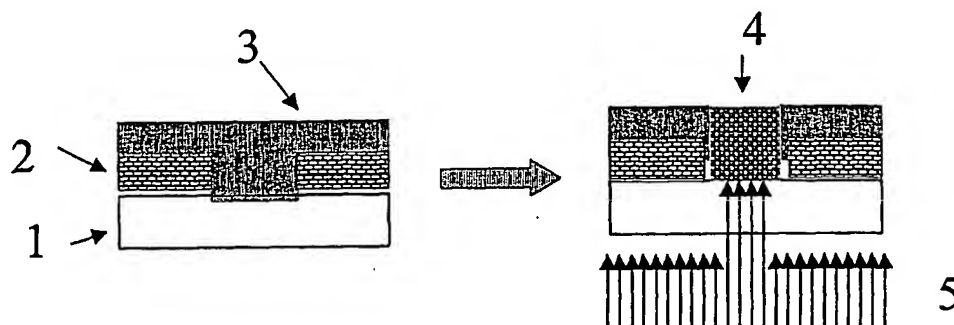
**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:  
23 February 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: UV RADIATION BLOCKING PROTECTIVE LAYERS COMPATIBLE WITH THICK FILM PASTES



(57) Abstract: This invention relates to compositions comprising a photoresist material and a UV-B blocking agent. These compositions are used in the fabrication of electronic devices, particularly those formed from thick film pastes. The present invention is also an electronic device fabrication process using the compositions. A protective polymer layer is fabricated from materials that are insoluble after irradiation in the ester-type solvents contained in a thick film paste. By appropriate selection of protective film polymers, the protective film can be used to photo-image a pattern with an unfiltered mercury lamp radiation source.

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US2005/018971

A. CLASSIFICATION OF SUBJECT MATTER  
G03F7/09

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
G03F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE WPI Section Ch, Week 200058 Derwent Publications Ltd., London, GB; Class A89, AN 2000-604323 XP002356932 &amp; JP 2000 187327 A (FUJI PHOTO FILM CO LTD) 4 July 2000 (2000-07-04) abstract &amp; JP 2000 187327 A (FUJI PHOTO FILM CO LTD) 4 July 2000 (2000-07-04) page 29; examples 9,10; table 1</p>	1-9
X	<p>US 6 238 842 B1 (FUJI PHOTO FILM CO LTD) 29 May 2001 (2001-05-29) column 156; examples 19,20; table 3</p>	1-9

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*G\* document member of the same patent family

Date of the actual completion of the international search

1 December 2005

Date of mailing of the international search report

27/12/2005

Name and mailing address of the ISA  
European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax (+31-70) 340-3016

Authorized officer

Dupart, J.-M.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2005/018971

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 2000187327	A	04-07-2000	NONE	
US 6238842	B1	29-05-2001	NONE	